WHAT IS CLAIMED IS:

1.   An oximeter sensor, comprising:

a substrate having a shape similar to a shape of at least a portion of a patient's forehead and including a section adapted to substantially fit over a portion of a forehead of a patient;

an emitter disposed on said substrate at a position located on said section; and

a detector disposed on said substrate at a distance from said emitter.

2.   The sensor of claim 1 wherein said substrate is resilient and has a shape conformable to the forehead of a patient.

3.   The sensor of claim 1 wherein said substrate comprises an adhesive layer for adhering to the forehead of a patient.

4.   The sensor of claim 1 wherein said substrate comprises a darkened layer so as to minimize the incidence of reflected light that does not go through the tissue of a patient onto said detector.

5.   The sensor of claim 1 further comprising leads connected to said emitter and said detector, said leads extending along said substrate away from one of the top or a side of a patient's forehead.

6.   The sensor of claim 1 further comprising a hat for holding said substrate against the patient's forehead.

7.   The sensor of claim 6 wherein said substrate is adhered to the inside of said hat.

8.   The sensor of claim 7 wherein said substrate is adhesively adhered to the inside of said hat.

9.   The sensor of claim 1 wherein said substrate comprises a plurality of laminated layers.

10.   An oximeter sensor, comprising:

2   a substrate having a shape similar to a shape of at least a portion of a patient's

3 forehead and including a section adapted to substantially fit over a portion of a forehead of a

4 patient;

5   an emitter disposed on said substrate at a position located on said section;

6   a detector disposed on said substrate at a distance from said emitter; and

7   a hat for holding said substrate against the patient's forehead.

1   11. A method for determination of a blood characteristic, comprising:

2   applying an emitter and a detector to spaced-apart positions on a forehead of a

3 patient in the lower forehead region, above the eyebrow, with both the detector and the

4 emitter placed lateral of the iris;

5   securing said emitter and detector to said patient;

6   emitting electromagnetic radiation with said emitter;

7   detecting electromagnetic radiation scattered by the forehead by said detector

8 and producing a detector signal; and

9   determining a blood characteristic in the patient from said detector signal.

1   12. The method of claim 11 wherein said blood characteristic is oxygen

2 saturation.

1   13. The method of claim 11 wherein said securing comprises placing a hat

2 over said emitter and said detector.

1   14. The method of claim 11 wherein said securing comprises securing said

2 emitter and said detector to the patient by attaching said emitter and said detector to an inside

3 of a hat, and placing said hat on the head of the patient.

1   15. The method of claim 11 comprising detecting light reflected from the

2 forehead of the patient with said detector.

1   16. A method for determination of a blood characteristic, comprising:

2   applying an emitter and a detector to spaced-apart positions on a forehead of a

3 patient in the lower forehead region, above the eyebrow, with both the detector and the

4 emitter placed lateral of the iris;

5   securing said emitter and detector to said patient, by attaching said emitter and

6 said detector to an inside of a hat, and placing said hat on the head of the patient;

7   emitting electromagnetic radiation with said emitter;

8   detecting electromagnetic radiation scattered by the forehead by said detector

9 and producing a detector signal; and

10   determining a blood characteristic in the patient from said detector signal.

1   17.   The method of claim 16 wherein said blood characteristic is oxygen

2 saturation.